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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,459	06/01/2006	Hans-Joachim Hahnle	291264USOX PCT	2316
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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER CORDRAY, DENNIS R	
			ART UNIT	PAPER NUMBER
			1741	
			NOTIFICATION DATE	DELIVERY MODE
			10/27/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/581,459

**Applicant(s)**

HAHNLE ET AL.

**Examiner**

DENNIS CORDRAY

**Art Unit**

1741

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 August 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4 and 6-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4 and 6-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/22)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

### **DETAILED ACTION**

Applicant's amendments and arguments have overcome the rejections of Claims 4-9 over Kuo et al and of Claim 8 over Kuo et al in view of Takahata et al for reasons given in the remarks.

Applicant's arguments regarding Utecht et al have been fully considered but they are not persuasive.

Applicant argues (pp 13-14) that Lai et al teaches that customary amounts of hydrolyzed polymers prepared from N-vinylformamide monomers that are useful as retention aids are from 0.05% to 0.5% based on fiber. Lai et al was only used for evidence that acid hydrolyzed polymers prepared from N-vinylformamide monomers are cationic. In addition, Utecht et al postdates Lai et al by a decade and has realized that lower amounts of such polymers can be used effectively for retention and drainage.

Applicant recognizes that Utecht et al teaches that its polymers are used as retention and drainage aids and as fixatives in making all known paper, paperboard and cardboard grades by adding them to the stock in amounts from 0.01% to 0.1% by weight of the dry fiber, and that the polymers are used with fillers that include calcium carbonate and titanium dioxide. Applicant argues that Utecht et al expressly discloses the use of its polymers as fixatives for contraries in papermaking processes in the amount from 0.001% to 0.1% by weight of the dry fiber.

Utecht et al is clear in teaching the use of polymers as retention and drainage aids in amounts from 0.01% to 0.1% by weight of the dry fiber and additionally as

fixatives when added in amounts from 0.001% to 0.1%, same basis (col 6, line 56 to col 7, line 7). It is well known by those of ordinary skill in the art that vinylamine containing polymers can simultaneously act as retention and drainage aids and as fixing agents (Utecht et al discussed above, and see also Auhorn et al, 6083348, col 2, lines 34-37).

Applicant argues (p 15) that Utecht et al does not teach or reasonably suggest that its polymers have any ability to fix particulate fillers on fibers. It is well known in the art that the function of a retention aid is to increase the adsorption of fillers onto the cellulosic fibers or to bind the fillers to the cellulosic fibers (Carr et al, p 1, pars 3 and 4; Varveri et al, col 1, lines 23-29) thus fixing the fillers to the fibers in the pulp is an inherent function in the use of the cationic polymer as a retention aid or, at least, fixing the fillers to the fibers would have been obvious to one of ordinary skill in the art.

Applicant argues (pp 15 and 16) that Utecht et al discloses the use of its polymers as emulsifiers in preparing aqueous filler slurries, the polymers used in amounts from 0.1 to 2% by weight, based on the aqueous slurry. This usage is not based on the weight of the fibers and does not prevent the polymers from acting as retention aids in a papermaking slurry.

The rejections of Claims 4-9 over Utecht et al in view of others is maintained, but has been modified to address the amended and new claims.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 4 and 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Utecht et al (US 6184310) in view of Carr (US 2004/0250972) and further in view of Takahata et al, Snow et al and Koichi et al, and as evidenced by Lai et al (EP-331047 A) and Varveri et al (US 3639208)..

Utecht et al discloses polymers containing vinylamine units made by converting from 0.1% to 100% of the formyl groups to vinylamine by acid hydrolysis in a polymer containing N-vinylformamide units. At least 0.1 mol-%, of the vinylamine units are further converted to carbamate moieties (Abs; col 2, lines 4-21 and 33-55; col 3, line 59 to col 4, line 39; col 6, lines 1-7), which leaves in some embodiments the majority of vinylamine units unconverted. Note that the open language of the instant claims does not preclude additional reaction of some of the vinylamine units. The claimed additional monomers copolymerized with the N-vinylformamide are disclosed (col 2, line 56 to col 3, line 58). The polymers made by acid hydrolysis are cationic (see Lai et al p 5, lines 24-39 if evidence is needed).

The polymers are used as retention and drainage aids and as fixatives for making all known paper, paperboard and cardboard grades by adding them to the stock from 0.01% to 0.1% by weight of the dry fiber. Many of the claimed pulps are disclosed. Suitable fillers used in making papers include chalk (calcium carbonate) and titanium dioxide (col 6, line 56 to col 7, line 7; col 7, lines 14-18).

Utecht et al does not disclose the claimed papermaking process or ash content of a paper. Utecht et al does not disclose the mass ratio of cationic polymer to filler.

Carr teaches that a typical process of making paper generally known in the art that comprises feeding an aqueous suspension containing cellulosic fibers, and optional fillers and additives into a headbox, ejecting the suspension onto a forming wire, and draining the water from the web. It is well known in the art that the function of a retention aid is to increase the adsorption of fillers onto the cellulosic fibers or to bind the fillers to the cellulosic fibers (Carr et al, p 1, pars 3 and 4; Varveri et al, col 1, lines 23-29) thus fixing the fillers to the fibers in the pulp is inherent in the use of the cationic polymer as a retention aid or, at least, would have been obvious to one of ordinary skill in the art, as is increased ash content over not using the cationic polymer.

Carr does not disclose the claimed ash content or the mass ratio of cationic polymer to filler.

Takahata et al discloses a laminated decorative sheet (construction material) comprising a base paper loaded with titanium-oxide or other filler to impart desired color or opacity (Abs; col 3, lines 22-32).

Snow et al discloses a cigarette tipping paper comprising from 20% to 40% by weight of calcium carbonate to impart opacity (Abs; col 3, lines 38-40).

Koichi et al discloses a filled paper comprising from 5 to 35 parts (based on 100 parts bone dry weight) by weight of a mixture of calcium carbonate and titanium dioxide to impart opacity and whiteness. The papers made include India paper (Abs; pars 0001, 0002 and 0018).

The art of Utech et al, Carr, Takahata et al, Snow et al, Koichi et al and the instant invention is analogous as pertaining to papers containing fillers. It would have

been obvious to use papermaking stock comprising common additives and generally known papermaking process to make a paper from a slurry containing the claimed filler and the claimed amount of a vinylamine containing polymer of Utecht et al in view of Carr and further in view of Takahata et al, Snow et al or Koichi et al to obtain a filled paper having good retention of the filler. It would further have been obvious to make a base paper for the claimed kinds of papers to provide the disclosed opacity needed for the products. It would further have been obvious to obtain the claimed ash content corresponding to the filler content of the disclosed papers. The ratio of the amount of vinylamine disclosed by Utecht et al to the filler content of the papers of Snow et al and Koichi et al overlays the claimed range.

The method made obvious over the prior art is substantially the same as the claimed method, and the opacity of filler containing paper produced will be enhanced or, at least, such enhancement would have been obvious because, where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "Products of identical chemical composition can not have mutually exclusive properties."

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DENNIS CORDRAY whose telephone number is (571)272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Daniels can be reached on 571-272-2450. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dennis Cordray/  
Examiner, Art Unit 1741

/Matthew J. Daniels/  
Supervisory Patent Examiner, Art Unit 1741